OIT FISCAL YEAR 1985 ACCOMPLISHMENTS

1. OVERVIEW

Information Technology is the newest office in CIA and is still in the process of evolution. The Office comprises [redacted] personnel, and an FY 1985 budget [redacted] OIT was formed in February 1985 from portions of the Offices of Security and Communications, and all of the former Office of Data Processing. This consolidation was a major step in meeting the challenges of the Agency's information handling needs - - challenges that continue to grow along with the complexity of today's technologies. OIT's three deputies - - for Management, Operations, and Development & Engineering - - are responsible for all CIA domestic communications, Headquarters central computer facilities and services, development of applications software, teleprocessing services, computer security, technical training of ADP professionals from all directorates, and related ADP and communications services that have become integral to Agency and Intelligence Community operations.

During FY 1985, there was an unprecedented increase in the communications and information systems services and support required by the Agency. The user population of ADP and communications systems grew out of proportion to the general Agency population. This, in turn, meant that the OIT infrastructure had to grow and improve to meet these demands. This was accomplished by expanding and upgrading facilities, by the addition of new technology, and a lot of hard work on the part of the entire Office. The following statistics, which are examined more fully later in the paper, illustrate the increased level of support:

	1985	1984
Central Computer Users		
Automated Information Management (AIM) Users		
CIA SAFE Users		
Central Computer Terminals		
Central Processing Power - MIPS (Millions of Instructions Per Second)		
Central Storage Capacity - Gigabytes (Billions of Characters)		
WANG Equipment Installed Base		
HQ Secure Voice Instruments		
HQ Messages Processed		

ALL PORTIONS SECRET

25X1

Domestic Network Facilites

Domestic Field Secure Voice Instruments

Domestic Network Messages

Domestic CRAFT Installations

Computer Security has also received renewed emphasis with the formation of OIT and the entire Agency is becoming resensitized to this important responsibility. While providing the services and support that are required by the Agency as a whole, OIT has also concentrated on satisfying the very specific needs of the various Directorates and the Intelligence Community including specialized communications for operations, intelligence production systems, administrative systems, and systems to support National assets. While tackling these formidable tasks, OIT still faced the job of forming a new office and beginning the process of strategic planning for information technology support to the Agency in the future.

2. GENERAL SUPPORT (Growing User Population)

The number of users of OIT services has increased dramatically this
25X1 year. There are now users on the six central computer systems,
25X1 compared to last year - - a 53% increase. The number of users of
Automated Information Management (AIM), the electronic mail environment
25X1 serving the Agency, is now compared with one year ago - - a
117% increase.

3. GENERAL SUPPORT (Growing Infrastructure)

With the increase in users, an increase in the level of support and
25X1 services is required. During this year, OIT installed pieces of
25X1 WANG equipment, bringing our installed base to almost In the
central services arena, there has been a dramatic increase in terminals
and printers installed to support the increasing number of users.
25X1 Approximately terminals and printers were installed during the
25X1 year, and almost another were exchanged or relocated. This is a
54% increase in activity over the previous year with no change in the
staffing complement. The magnitude and significance of this effort was
addressed in a memorandum to OIT from Chief, Analytic Support Group, DI:

> '... let me add my thanks for what can only be considered performance above and beyond the call of duty. Much of the added workload that you folks accomplished in '85 was for the DI and I want you to know that it was appreciated. You have helped move our Directorate out of the computing dark ages:
> 25X1 in only two years we have gone from terminals to over
> 25X1 and are very near our goal--which no one imagined we would reach before 1988--of having a terminal on everyone's desk. It never would have happened without you. Thanks!'

The continuing computer upgrade program resulted last year in a 20% increase in available processing power, but growth in users and their diverse demands means that even this improvement in processing power is still insufficient. OIT will further increase processing power over the next two years with the establishment of computer centers in the new building and the transition to an even more advanced processor technology.

OIT also is continuing to improve the technology that supports information processing needs of the Agency. Some of the resulting user benefits are improved response times, increased available storage capacity, and reliability. For example, the new on-line storage devices to which OIT is migrating, have double the storage capacity, are faster, and are more reliable. We began to convert to these devices in 1985 and have increased storage capacity by 40% and decreased failures by 50%. OIT also is moving away from the traditional round computer tapes to a new cartridge technology. This, too, has increased capacity and speed and, even more importantly, has resulted in a dramatic decline in failures - - the rate is down by 99.5% with this new technology.

OIT participated in two Early Support Programs with IBM. These programs provided the Agency early access to the latest technology in computer processors (the IBM 3090, also known as the Sierra) and online storage devices (the IBM dual density 3380's). The Agency was selected because of our demonstrated ability to manage aggressive schedules, our highly trained and competent technical staff, and our stated need for the earliest availability of the new technology. The Agency received many benefits by participating in these programs:

- o early access to the much needed technology
- o ability to influence IBM to ensure that unique Agency processing requirements were included in the product design
- o satisfaction of expanding Agency computer processing requirements within our very tight floor space constraints.
- o immediate access to the product design specialist

OIT and IBM agreed on a special computer maintenance program this year. Based on our demonstrated maintenance management capabilities, OIT was one of approximately forty computer installations - - the only one in the Federal Government - - to qualify for the program. Under the arrangement, OIT accepted some responsibilities normally taken by IBM. Along with a redefinition of maintenance coverage, this resulted in an FY 1985 savings of [redacted] 25X1

OIT realizes that to meet the Agency's future information processing needs, the existing base of equipment must be understood and accounted for in planning. In this light, OIT organized and supervised the first-ever Agency-wide census of ADP equipment. The purposes of the census were:

(1) to establish a baseline for any future census so that the Agency can track trends and changes in ADP usage;

(2) to collect information on the scope and depth of automation that is available to Agency employees; and,
(3) to review the extent to which OIT provides services to Agency components, helping us to better plan for future services.

The census revealed an incredible variety and quantity of equipment. One very significant fact was revealed - - there are 161 different computer equipment vendors for CIA. In the interest of security and manageability, OIT plans to take action to bring this number down drastically.

OIT also conducted an extensive review of commercial personal computer software products in preparation for the planned growth in the use of Agency desktop computers. In close coordination with major customers within the Agency, an initial family of products was selected that will meet the majority of Agency personal computing needs.

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To better support the field and Headquarters, OIT opened the Communications Operations Center in February 1985. This centralized the Headquarters support for all communications. In the Headquarters facilities, the total number of messages disseminated this year was 1984 - - a 16% increase. The total number of messages actually handled by the system was compared with last year - - a 31% increase. Over the five previous years, the increase has only averaged 6% per year.

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State of the art cryptographic equipment is also being installed. During FY 1985, nstruments were installed in Headquarters and across the United States. This program has a two-fold purpose - - to replace obsolete equipment as part of the recapitalization effort and to replace equipment that was compromised by the Walker case.

25X1

The Message Handling Facility (MHF) was implemented in late July 1985 and has been operating successfully. This is the first phase of the

replacement of the Cable Dissemination System. The backlogs of thousands of unprocessed messages, which were commonplace before MHF became operational, have been virtually eliminated. The result has been more timely delivery of electrical traffic to the user.

4. COMPUTER SECURITY

The responsibility of OIT goes well beyond the provision of services and support. The protection of the information on the computer systems is paramount. Computer Security has received renewed emphasis with the formation of OIT, and activity has increased significantly.

Several significant cases of abuse of the Agency's computer systems were discovered during this past year. These cases involved the misuse of passwords to intentionally violate need-to-know principals. One case, involving a contractor, was referred to the Department of Justice and the FBI for further investigation. In order to identify and support the investigation of abuse cases, a new audit system was implemented and has improved significantly our auditing capabilities. With the increased activity by OIT in computer security and the numerous cases of abuse, Agency components are becoming resensitized to the responsibility to protect Agency information on computer systems. The first few cases of abuse were caught by OIT - - the last two cases were caught by ADP Control Officers in the Directorate of Intelligence. OIT considers this to be very significant. The protection of Agency information must be a joint and concerted effort.

Not only must OIT identify cases of abuse, but we must also identify and eliminate vulnerabilities in the Agency's systems so that the opportunities for abuse are mitigated. OIT completed a vulnerability study of the CAMS-2 system, which is one of the 13 critical computer systems in the Intelligence Community. The study revealed 41 security vulnerabilities. The major goal of the study was to determine the extent of system vulnerabilities in order to make recommendations that would eliminate the possibility of a potential compromise of sensitive information to unauthorized users. The final report was released in September 1985 and action is underway to address the deficiencies.

OIT also completed a risk assessment of the Directorate of Operations' Special Center. The final report includes 27 recommendations for improving ADP system and procedural security in this center. The report also includes a plan for migrating the Special Center to more trusted computer systems. As a result of the study, the DO established a task force to implement the recommendations.

A major area of concern in the prevention of abuse and compromise of Agency information is the authentication of computer system users. This is one of the major areas identified in the report "Computer Security Investment Strategy - FY 1985 - 1991". As a key step in this area, OIT and IBM agreed to a joint project. The Agency has agreed to serve as the "beta test site" for implementation of IBM's Signature Verification system using one of our mainframe computer systems. With Signature

Verification, a user is identified to the computer system by the pattern, speed, and pressure of his or her handwritten signature. The technology is relatively inexpensive and difficult to subvert. This would provide far more reliable identification than the current password mechanism, which depends on the integrity and discretion of the individual. The prototype will be undergoing testing for 12 months, but, currently, looks extremely promising.

Another area of importance is magnetic media control. Magnetic media, such as floppy disks and tapes, hold a large amount of information and are easily transported. In this area, OIT completed an effort to design and procure security classification labels to be affixed to all magnetic media. The labels wil be distributed within the Agency in the first quarter of FY 1986. We have begun a study of methods to encrypt data on magnetic media so that it would be useless if taken outside the Agency environment.

The education of users is an important part of the computer security effort. In the past year, computer security briefings were given to
25X1 [redacted] students. These were provided as part of training on the use of specific information systems and other more general areas. Six new briefings were added to the existing complement during the past year. A special reindoctrination briefing was provided to 500 FBI employees.

OIT has not only provided the Agency with increasingly valuable support in the area of computer security, but has also provided guidance
25X1 [redacted] OIT also frequently participates in Intelligence Community (IC) studies and has an ongoing relationship with the Computer Security Working Group in the IC. To ensure the protection of Agency information, OIT also works closely with other Agencies when our information is processed in their systems.

5. SERVICES TO THE DIRECTORATES

OIT provides general purpose data processing and domestic communications support to Agency users, including batch, timesharing, and database service, and voice, data, and narrative communications. At the same time, OIT provides specific purpose support to the various directorates, primarily the Directorate of Operations (DO), the Directorate of Intelligence (DI), the Directorate of Administration (DA), and the Intelligence Community (IC).

A. Support to the Directorate of Operations

For the DO, the Crisis Communications Center (CCC) in OIT's Communications Operations Center (COC) provides continous operational support. The CCC was moved to the first floor of Headquarters in February 1985 to be co-located with the COC. This move centralized the communications support for users during crisis situations.

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B. Support to the Directorate of Intelligence

OIT also supported the DI in numerous areas and plans are underway to expand the level of support in FY 1986. SAFE is the largest support effort in OIT for the DI. Last year, at the request of the DI, a major redirection in this effort took place. Instead of phasing users in gradually over time with each incremental delivery of new capability,

the DI decided to put as many analysts on the then current system as possible. OIT made a major effort to install as many SAFE terminals as feasible and to upgrade communications facilities to handle the increased load. As a result, we doubled the number of users on SAFE in one year, reaching the total previously projected for end of FY 1987.

OIT also supports the DI with other systems and services. Development was initiated on a new system to upgrade the capabilities of OSWR's Technology Transfer Assessment Center (TTAC). This system will enhance TTAC's ability to provide intelligence information and analysis to the Government's export control community, and to support the identification of high risk export activities. This system is scheduled to become operational in December 1985.

OIT also has helped to design a system for the Collection Requirement and Evaluation Staff (CRES). This system, the Automated Requirement Management System (ARM), will improve the ability of intelligence analysts to task all-source collection resources and to receive "feedback" information that provides analysts and managers collection status and requirements satisfaction data. It now appears that the DI will undertake systems development of ARM without further OIT involvement.

The Automated Information Management (AIM) electronic mail system, which is the backbone of many of the Agency's major systems such as SAFE and DESIST, also was initially used in FY 1985, to assemble the National Intelligence Daily (NID) electronically. This streamlined and simplified the then-existing semi-automated publishing process.

Video distribution capabilities in the Headquarters building also were expanded by 50% in FY 1985 to support the DI analysts' needs for television transmissions.

C. Support to the Directorate of Administration

OIT provides significant support to the Directorate of Administration, as its offices support Agency-wide operations and activities.

The focus of our DA support is the Corporate Data Program - - an OIT effort to integrate Agency administrative data bases. The goal of the program is to improve the quality and timeliness of administrative reporting, while simultaneously reducing the cost and schedules associated with the development and support of administrative data processing systems.

The program is a joint effort requiring the expertise and cooperation of components throughout the Directorate of Administration and from within OIT. A major FY 1985 milestone in this program was the successful installation of Cullinet Corporation's IDMS/R data base management system (DBMS) on an OIT mainframe computer. IDMS/R has been selected as the foundation of the Corporate Data Program. It is a

modern, highly capable DBMS that eventually will replace the Generalized Information Management System (GIMS) - - a CIA system that is obsolete by 1985 standards. The new DBMS will provide state-of-the-art tools for both software developers and DDA users. Also associated with the new DBMS is a complete group of commercially-available applications packages that will facilitate the development of data processing systems for the DA.

The next step in this program involves the development of a financial and a personnel prototype system using IDMS/R. This should be completed by December 1985. Should the prototypes prove successful, then full-scale development in the financial, logistics, personnel and medical areas will follow.

One of the prototypes being developed under the Corporate Data Program is the Office Budget Formulation (OBF) system, a component of the Budget and Accounting Resources Systems (BARS). OBF runs on an IBM Personal Computer and provides automated tools for the component budget officer to prepare and revise an office budget. Ultimately, OBF will link with the Agency's Corporate Data Base, allowing office and higher echelon budget data to be passed back and forth. OBF prototype software will be installed in four offices in December 1985, and will be used to prepare the FY 1988 program. OBF should greatly improve both the accuracy and timeliness of office budget submissions. In addition, the burden of budget preparation should be greatly reduced.

Another system being developed for the DA is the Integrated Applicant Processing System (IAPS). The initial phase of this effort was completed in FY 1985. Over 100 Office Of Personnel staff were trained in the use of mainframe services, primarily AIM (18 new terminals were also installed). The use of AIM will expedite the flow of information related to applicant processing. The design of the prototype Central Applicants Processing System (CAPS) was also initiated in FY 1985. CAPS is a part of the Corporate Data Program and will utilize the new data base management system, IDMS/R from Cullinet Software, Inc. Also in FY 1985, the initial phase was completed for a prototype of the personal computer-based Recruiter Applicant Processing System (RAPS). RAPS will assist field recruiters in tracking applicants.

Another Corporate Data Program milestone in FY 1985 was the development and testing of the Electronic Time and Attendance System (ELECTAS), a component of the Automated Compensation Information System (ACIS) (a new payroll system). ELECTAS will permit T&A information to be prepared, certified and routed to the Office of Finance electronically. The improvements in accuracy and timeliness should be significant. In addition, T&A card handling burden should be eliminated. Implementation of ELECTAS is scheduled for May 1986.

Also, in July 1985, phase I of the Security Information Management System (SIMS), Biographic and Adjudicative Security Elements (BASE), became operational. SIMS/BASE provides an index to security files, replacing and significantly enhancing the former system. SIMS/BASE

provides enhanced name search, a tracking system for security file folders, a limited link with the Defense Investigative Service (DIS), Fort Holabird, and an interface with the Agency personnel system (PERSIGN). One immediate benefit of the new system is that with the limited link to Fort Holabird, DIS gets near immediate notification of negative results of a search of Agency security files (in the past, paperwork passed between DIS and Office of Security and the search was performed at HQ---a time-consuming process.)

D. Support to the Intelligence Community

The Agency is frequently called upon to provide communications and information systems support to the Intelligence Community (IC). During FY 1985, OIT was very active in this arena.

OIT is responsible for the development, maintenance, and operation of the COMIREX Automated Management System (CAMS) Processing Segment (P/S) - - a critical system in the collection of imagery. During this past year, OIT developed the first of two major CAMS components to support the next planned overhead system. The second component will be put in place in April 1986, well before the vehicle is launched. In addition, OIT made numerous major enhancements to the existing system.

The SAFE Program is a joint CIA/DIA effort, managed by OIT. In 1984, OIT set up a computer center for DIA and delivered the first version of SAFE. In 1985, development efforts continued on the next upgrade to the system. OIT also continued training personnel in DIA to support all facets of the system from engineering to software management. In addition to supporting DIA in the area of information management, OIT has been working with STATE/INR to determine the feasibility of applying SAFE or a SAFE-like system in their environment. (We have also done a similar study for FBIS.)

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6. CONCLUSION

In summary, FY 1985 was a busy year for the Office of Information Technology. Many significant accomplishments were achieved, many problems and opportunities, however, remain to be addressed. The formation of OIT during FY 1985 met a critical need of the Agency. It provided the potential for a truly integrated solution to our information management requirements. The challenge for this office, therefore, is in the future. How can we use the increasingly sophisticated and interrelated technological tools that are at our disposal to improve the effectiveness and timeliness of intelligence collection, processing and analysis? And do so in a matter that is secure, reliable and cost-effective? OIT's energies during the next

year will be devoted to laying the organizational, management and technological groundwork that will allow us to meet the enormous challenges that lie ahead.